39. The method of claim 37, wherein the polynucleotide or fragments of the polynucleotide are labelled with ^{32}P or a fluorescent label.

40. The method of claim 37, wherein the polynucleotide or fragments of the polynucleotide are populations of mRNA, genomic DNA, or PCR products. --

REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

A new Oath or Declaration was required, because whole punching of the copy of the Declaration to assemble the PTO file removed some of the top wording of the Declaration.

There is submitted herewith a new copy of the Declaration with a sufficiently large border at the top of the Declaration to avoid this problem. The Examiner also mentions a scotch taped addition at the bottom of the Declaration. The Applicant's representative is unaware of such addition, or who made the addition, whether a clerical staff in the PTO or in this representative's office. At any rate, there is no scotch taped addition to the new copy of the Declaration as originally filed which is submitted herewith. To avoid confusion, there is stabled to the bottom of the Declaration an indication of the new address of this representative's office, which method is suggested by the PTO when the correspondence address stated on a Declaration has been changed.

A substitute specification was required. There is submitted herewith a substitute specification in accordance with the Examiner's requirement. The substitute specification contains no new matter.

The substitute specification has also been amended to reference the parent applications, and to correct minor typographical errors appearing in the original specification as filed.

The double patenting rejection set forth in the Official Action is deemed to be overcome by the cancellation of claim 1 without prejudice and the presentation of the new claims submitted above.

In addition, the rejection of claim 1 under 35 USC 102 as being anticipated by Mundy, Saiki et al. and Brigati et al. is deemed to be overcome by the cancellation of claim 1 and the presentation of new claims 17-40. Each cited reference fails to disclose each material feature of the new claims presented.

Support for New Claims

17. This claim is similar overall to method claim 6 of US-5700637 ("...apparatus comprising a support segregated into at least two defined cells...", "...the sequence of the oligonucleotides of a first cell is different than the sequence of the oligonucleotides of a second cell...", "...attached to the surface of the support through a covalent linkage..." *etc.*), but specifies that the support is impermeable (page 11, lines 24-25: "...a smooth impermeable surface, such as glass..."). Additional basis for specifying covalent attachment to the impermeable support comes from claim 7 of the PCT application as filed.

18. These lengths find basis in claims 5 and 14 of the PCT application as filed. See also claim 5 of US-6054270.

19. These sizes find basis at page 11, lines 19-29, of the PCT application as filed, and also at page 13, lines 21. See also claim 3 of US-5700637.

20. The "solvent-repellent grid" is mentioned at page 11, line 28, of the PCT application ("...to preform a solvent repellant (*sic*) grid...")

21. Glass as a specific impermeable support finds basis in the PCT application at: the abstract; page 2, line 19; page 11, line 25; the examples; and claim 6.

22. Covalent links via terminal nucleotides find basis at page 12, lines 24-26, of the PCT application.

23. Basis for an apparatus with 72 cells is in example 3; basis for an apparatus with 10^{12} cells is the table on page 8.

24. Basis for specifying 4^S cells of all possible oligonucleotides of length s comes from section 4.3 of the application (pages 7-9). The lower limit of s=4 (*i.e.* 4^4, which is 256) comes from page 8, lines 9-11.

25. Basis for overlapping oligonucleotides for mismatch scanning is at page 5, lines 15-18, of the PCT application ("...The advantage of using a completely overlapping set is that it provides a more precise location of any sequence difference, as the mismatch will scan in s consecutive oligonucleotides.")

26. The patches (*i.e.* array cells) in this apparatus are patches of microporous glass. This finds basis at page 5, line 29-33 ("One attractive possibility, which allows adaptation of present techniques of oligonucleotide synthesis, is to sinter microporous glass in microscopic patches onto the surface of a glass plate.")

27. Claims 27-32 rely on the same basis as claims 18-25.

33. Claims to analysis methods find general basis in the application as a whole. The steps in this claim find basis at page 2, lines 3-13. See also claims 6 & 7 of US-5700637 and claims 9 & 11 of US-6054270. See also claim 8 of the PCT application.

34. Random degradation *etc.* finds basis at page 13, lines 9-16, of the PCT application. See also claim 7 of US-5700637.

35. ^{32}P labels find basis at page 13, line 18, at page 14, line 9, in the examples, and in claim 13 of the PCT application (see also claim 8 of US-5700637). Fluorescent labelling finds basis at page 14, line 13, of the PCT specification.

36. Types of polynucleotides are discussed at page 1, lines 19-23; page 2, lines 30-34; and Example 4.

37. Claims 37-40 rely on the same basis as claims 33-36.

Favorable consideration is thus respectfully solicited.

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